

**AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Appl'n 10/092,595**

Atty Docket No. Q68811

AMENDMENTS TO THE DRAWINGS

Figures 1-2 have been amended as shown in the attached sheets.

Attachment: Replacement Sheet

REMARKS

Claims 1-8 are all the claims pending in the application. Claims 1-8 have been examined and rejected under 35 U.S.C. § 103(a). In addition, the Examiner has made objections to the drawings and claims.

PRELIMINARY MATTERS

Applicant thanks the Examiner for acknowledging the Applicant's claim of foreign priority and of receipt of the certified copy of the Applicant's priority document.

OBJECTIONS TO THE DRAWINGS

Figures 1-2 have been amended as shown in the accompanying replacement sheets. Applicant submits that these amendments overcome the Examiner's objections.

OBJECTIONS TO THE CLAIMS

Claims 1 and 5 have been amended as suggested by the Examiner. Applicant respectfully submits that these amendments overcome the Examiner's objection.

The amendments to claims 1 and 5 made herein are editorial amendments. These amendments were made merely to more accurately claim the present invention and do not narrow the literal scope of the claims and thus do not implicate an estoppel in the application of the doctrine of equivalents. The amendments to claims 1 and 5 were not made for reasons of patentability.

CLAIM REJECTIONS

Claims 1-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,294,886 to Gibard ("Gibard"). Claims 1-6 and 8 are rejected under 35 U.S.C. §

103(a) as being unpatentable over U.S. Patent No. 6,646,360 to Brown ("Brown"). For the following reasons, these rejections are respectfully traversed.

A. The Gibard Reference

1. Claims 1 and 5

The Gibard reference does not teach a method as recited in claim 1. In particular, Gibard does not teach detecting the connection of a connection member to an external power supply by measuring a current flowing in an external power supply line wherein the presence of a non-zero current indicates that the connection member is connected to the power supply line. The Examiner asserts that current sensor 40 functions so as to correspond to the claim method step; however, current sensor 40 does not measure current so as to detect whether a connection member has connected with a external power supply. In Gibard, current sensor 40 is provided to measure the current flowing between the kinetic accumulation of energy system 5 and the traction system 1 in order to calculate the energy consumed and the energy remaining in the kinetic accumulation of energy system 5. Col. 5, lines 42-44; col. 6, lines 4-9. The current detection step in claim 1 is performed to determine if a connection member has made a connection to an external power supply line and, similarly, the current sensor in claim 5 is provided to detect a current in the external power supply line in order to detect a connection of the connection member to the external power supply line. Therefore, neither a current detection step as recited in claim 1 nor a current sensor as recited in claim 5 are taught or suggested by Gibard. Further still, the Examiner has identified no credible motivation to modify the teachings of Gibard so as to include a detection step as recited in claim 1 or a current sensor as recited in

claim 5. Therefore, Applicant respectfully submits that claims 1 and 5 are patentable over Gibard.

2. Claims 2 and 6

As claim 2 is dependent on claim 1, and as claim 6 is dependent on claim 5, Applicant respectfully submits that claims 2 and 6 are patentable over Gibard at least based on this dependency.

However, claims 2 and 6 are patentable over Gibard for at least the following additional reason. Gibard does not disclose a method wherein during a transient phase, i.e., when power is being supplied by both kinetic accumulation of energy system 5 and catenary 3, the output voltage of the kinetic accumulation of energy system 5 is controlled so that the current flowing in an external supply line is substantially zero. There is no teaching that at any point during the operation of the supply system disclosed in Gibard that an output voltage of kinetic accumulation of energy system 5 is controlled so as to reduce the current flowing on an external supply line to zero. Accordingly, Applicant respectfully submits that claim 2 is patentable over Gibard for at least this additional reason. For analogous reasons, Applicant submits that the system of claim 6 is patentable over Gibard.

3. Claims 3-4 and 7-8

As claims 3-4 depend on claims 1-2 and as claims 7-8 depend on claim 5-6, Applicant submits that claims 3-4 and 7-8 are patentable over Gibard at least based on these dependencies.

B. The Brown Reference

The Brown reference is directed to a system for connecting a high-current low-voltage DC power source P_D in series with a low-current, high voltage DC power source P_L when additional power is required by a load. See Abstract; col. 1, lines 19-23. Brown seeks to operate a load at higher power by combining a low-current high-voltage source with a high-current low-voltage source in series. On the other hand, the present invention is directed to a system and a method which allow a vehicle to operate on either external or autonomous power depending on the presence of external power. See, e.g., Background of the Invention, page 2, lines 7-14. Thus, in the present invention, a vehicle is being powered by either an external power source *or* an autonomous power source and a smooth transition is affected between the two.

1. Claims 1 and 5

Brown does not teach detecting the connection of a connection member to an external power supply by measuring a current flowing in an external power supply line wherein the presence of a non-zero current indicates that the connection member is connected to the power supply line or a structure for making such a detection. The Examiner acknowledges that Brown does not explicitly disclose a method that includes a current sensing step, but argues that such a step is inherent in the disclosure of Brown. To inherently disclose an element of a claim, the allegedly inherently disclosed structure or step must inevitably and necessarily exist or occur. It is not necessary in the system disclosed in Brown that a sensor detects current on the external line to detect a connection of a connection member to the external power source. With respect to claim 1, current is measured to detect a connection of a connecting member to the external power supply. Thus, even assuming a current is measured in Brown, there is no teaching that the

current is measured in order to detect a connection as recited in claim 1. It is not the act of detecting a current *per se* that is claimed, but the step of detecting a connection by measuring a current. Further still, other methods of detecting a connection could be used, e.g., mechanical means. Thus, even taking the Examiner's assertions as true, it does not follow that Brown inherently discloses detecting a connection to an external power source by measuring the current on an external supply line. For analogous reasons, Applicant submits that Gibard does not teach a sensor as recited in claim 1. Thus, Applicant submits that claims 1 and 5 are patentable over Brown for at least this reason.

2. Claims 2 and 6

As claim 2 is dependent on claim 1, and as claim 6 is dependent on claim 5, Applicant submits that claims 2 and 6 are patentable over Brown at least based on this dependency.

However, claims 2 and 6 are patentable over Brown for at least the following additional reason. Brown does not disclose a method wherein during a transient phase, i.e., when power is being supplied by both diesel generator 410 and external source 415, the output voltage of the diesel generator 410 is controlled so that the current flowing in an external supply line is substantially zero. There is no teaching that during a transient phase, if one exists, that an output voltage of diesel generator 410 is controlled so as to reduce the current flowing on an external supply line is zero. The Examiner asserts that, with respect to claim 6, traction control unit (TCU) 490 adjusts the excitation to vary the inverter input voltage when the external power source P_L is connected to the system. However, even taking the Examiner's assertions regarding TCU 490 as true, TCU 490 does not adjust the output voltage of diesel generator 410 so that the

current flowing an external supply line from external source 415 is substantially zero. Brown may teach a method and a system for providing a smooth transition for connecting two power sources, but it does not teach or suggest doing this in the manner recited in claim 2 or with the structure recited in claim 6.

3. Claims 3-4 and 8:

As claims 3-4 depend on claims 1-2 and as claim 8 depends on claim 5, Applicant submits that claims 3-4 and 8 are patentable over Brown at least based on these dependencies.

CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

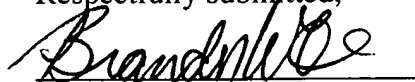
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Date: November 8, 2004